

Mallotus resinosa (Blanco) Merr. (Euphorbiaceae) and its Allies

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Abstract

Mallotus resinosa (Blanco) Merr. is a widespread Indo-Malesian species including *M. muricatus* (Wight) Muell.-Arg., *M. cuneatus* Ridley and *M. subramanyamii* Ellis, which are treated as its varieties.

Blanco (1845) described *Adelia resinosa* from Philippines in his work *Flora de Filipinas*. Having preserved no herbarium material and his descriptions being based only on live specimens, there seems to be no other means to interpret his taxa except by the short descriptions given by him. Merrill studied his species in detail after collecting fresh materials from the type localities and neotypified many of his species and published as his interpretations in *Species Blancoanae* (1918). Since then the species described by Blanco got recognition and acceptance. There is nothing in the code that prevents such neotypification which can only be rejected if the original material was rediscovered. Therefore Blanco's names with descriptions are validly published.

Wight (1852) described *Claoxylon muricatus* based on his collection from Courtallam in Tamil Nadu which was later transferred to *Mallotus* by Mueller Argoviensis (1865-6). Airy Shaw (1972) treated *Mallotus muricatus* as synonymous

to *M. resinosa* in his Euphorbiaceae of Siam, and in his subsequent works on Borneo (1975) and Australia (1910).

Mallotus subramanyamii Ellis (1985) was described from the Nilgiri Hills in Peninsular India, comparing it with *M. muricatus* of Peninsular India. *M. subramanyamii* is differentiated (as given in the protologue) from *M. muricatus* in having leaves elliptic and not rhomboidal, long-acuminate and much longer and capsules many times longer. Chakrabarty (1985) while treating *M. subramanyamii* as a variety of *M. resinosa*, mentioned that except for the long acumen of the leaves, no other character is dependable to distinguish *M. subramanyamii* from *M. resinosa*. Though Ellis (1986) insisted on specific rank for it, Chakrabarty (1987) found that the length of leaf acumen is insignificant even for varietal demarcation, due to the presence of integrading material.

The present study indicates that *M. resinosa* is a wide-spread species extending from India through Malesia to New

Guinea and includes several species described by various authors from various countries. It is also found that, as discovered by Chakrabarty (*l.c.*), the length of the acumen of leaves is insignificant even for varietal demarcation, due to the presence of the intergrading material. However, Chakrabarty (1985, 1987) overlooked a relevant character that the fruits of *M. subramanyamii* (so also the typical *M. muricatus*) possess basally thickened conical spines, while those of *M. resinosus* have slender spines not thickened at base. Reference to literature reveals that Pax & Hoffmann (1914) had already recognised two varieties under *M. muricatus*, viz. var. *genuinus* with "ovarium echinis crassiusculis, basi dilatatis, saepe \pm biseriatis tectum" and var. *walkerae* (Hook. f.) Pax & Hoffmann having "ovarium echinis tenuibus, longis \pm dense tectum". Airy Shaw (1972) was initially doubtful whether *M. muricatus* represents a variety of *M. resinosus*. Later, (Airy Shaw, 1980 b) while presenting Euphorbiaceae of New Guinea he further remarked, "strictly speaking, this widespread form of *M. resinosus* with slender-spined capsule is *M. walkerae* Hook. f. or *M. muricatus* var. *walkerae* (Hook. f.) Pax & Hoffm., but very few examples of *M. muricatus* var. *muricatus* with short conical spines are available and I am not sure whether they are normal. For the present therefore I include *M. muricatus* tentatively in the synonym of *M. resinosus*".

Our studies on the available material clearly suggest that the occurrence of short conical spines on the capsule is a constant feature to be found amongst the specimens from peninsular India and since no other character can be correlated with this feature, *M. muricatus* deserves only a varietal status under *M. resinosus*.

Since the varietal name *M. muricatus* var. *muricatus* is already available for the taxon, consequent on the addition of var. *walkerae* (Hook. f.) Pax & Hoffm., the varietal epithet *muricatus* should be used for the variety with short conical-spined capsules, including the species *M. subramanyamii* Ellis.

This opportunity leads us to study materials of another closely related species *M. cuneatus* Ridley at CAL. This species is distributed in Vietnam, Thailand and Malaysia. A specimen located at CAL from Myanmar (formerly Burma) indicates extension of its distribution to that country also. The only recognisable difference for this species from *M. resinosus* is the trinerved leaf - base and pubescent capsules. In all other respects it agrees with *M. resinosus* and hence is here reduced to a variety of that species.

The nomenclature of the species and its varieties and a key to the infraspecific taxa are presented below.

Mallotus resinosus (Blanco) Merr., Sp. Blanco. 222. 1918 & Enum. Philip. Fl. Pl. 2: 432. 1923; Airy Shaw in Kew Bull. 26: 294. 1972; 31: 392. 1976; 35: 656. 1980; 36: 326. 1981; in Kew Bull. Add. Ser. IV: 161. 1975; VIII: 171. 1980; Ramamoorthy in Sald. & Nicols., Fl. Hassan 344. 1976; T. Chakrab. in J. Econ. Tax. Bot. 11: 22. 1987. *Adelia resinosa* Blanco, Fl. Filip. ed. 2. 562. 1845; Muell.-Arg. in DC., Prodr. 15(2): 731. 1866. Neotype: Illustrative specimen from Philippines, Batangas prov., Luzon, Aug. 1914, Merrill Sp. Blanco 483 (n. v.)

Mallotus muricatus (Wight) Muell.-Arg., Linnaea 34: 191. 1865 & in DC. Prodr. 15(2): 972. 1866, *pro parte* (sphalm.

"*maricatus*"); Hook. f., Fl. Brit. India 5: 436. 1887; Pax & Hoffm. in Engler, Pflanzenr. IV. 147. VII: 190. 1914; Gamble, Fl. Pres. Madras 1322. 1925. *Claoxylon muricatum* Wight, Ic. Pl. Ind. Or. 5: 24, t. 1886. 1852. Syntypes: India, Tamil Nadu, Tirunelveli dist., Courtallam, *Wight* 2614 & 2672 (CAL).

Mallotus intermedius (Baill.) Balakr., Bull. Bot. Surv. India 10: 245. 1968. *Axenfeldia intermedia* Baill., Et. Gen. Euphorb. 419. 1858. Typum non vidi.

Mallotus walkerae Hook. f., Fl. Brit. India 5: 437. 1887; Trimen. Handb. Fl. Ceylon 4: 68. 1898; *Mallotus muricatus* (Wight) Muell.-Arg. var. *walkerae* (Hook. f.) Pax & Hoffm. In Engler, Pflanzenr. IV. 147. VII: 190. 1914. Syntypes: Sri Lanka, without exact locality, *Mrs. Walker s. n.* (K) et Herb. Acc. Nos. 414693 (CAL); Central Prov., without exact locality, *Thwaites* C P 2108; Herb. Acc. Nos. 414691 & 414692 (CAL).

Mallotus andamanicus Hook. f., Fl. Brit. India 5: 439. 1887; Brandis, Indian Trees 589. 1906; Parkins., For. Fl. Andaman Is. 241. 1923. Syntypes: India, S. Andamans, Phoenix Bay-Haddo, *Kurz s. n.* Herb. Acc. No. 414758 (CAL) without locality, *Kurz s. n.*; Herb. Acc. Nos. 414760 & 414761 (CAL); Crab Is., *Kurz s. n.* Herb. Acc. No. 414763 (CAL).

Mallotus cuneatus Ridley, J. Roy. As. Soc. Str. Br. 59: 181. 1911; Pax & Hoffm. in Engler, Pflanzenr. IV. 147. VII: 155. 1914; Ridley, Fl. Mal. Pen. 3: 288. 1924. Typum non vidi. *syn. nov.*

Mallotus subramanyamii Ellis in Bull. Bot. Surv. India 25: 199. 1985 (1983) err.

typogr. "*subramanyamii*" & J. Econ. Tax. Bot. 7: 428. 1986 (1985), in obs.; *Mallotus resinosus* (Blanco) Merr. var. *subramanyamii* (Ellis) T. Chakrab., J. Econ. Tax. Bot. 6(3): 704. 1985. Types: India, Tamil Nadu, Nilgiri Hills, Moolakadu, Oucherlong Valley, 29 July 1970, *Ellis* 34863 (CAL-holo., MH iso.).

Key to the varieties

- 1a. Leaves usually strongly trinerved at base;/ fruits pubescent.....2. var. **cuneatus**
 - b. Leaves penninerved or occasionally weakly trinerved at base; fruits not pubescent.....2
 - 2a. Spines of fruits long, slender.....1. var. **resinosus**
 - b. Spines of fruits short, conical, thick at base.....3. var. **muricatus**
1. var. **resinosus**
- M. walkerae* Hook. f., l. c.; *M. muricatus* var. *walkerae* (Hook. f.) Pax & Hoffm., l.c.

Shrubs or trees, up to 8 m tall. Recognizable by the flattened branchlets. the opposite unequal, short-petioled, penninerved, glabrous, mostly cuneate-obovate to elliptic and distally repand - dentate leaves with a few conspicuous macular glands near the base and the echinate capsules with slender spines, devoid of any pubescence.

Specimens examined (cited selectively): INDIA. Andaman-Nicobar Is.: *Prairie s. n.*, Herb. Acc. Nos. 414731 & 414732 (CAL); Interview Is. *Thothathri* 9027 (CAL); Long Is., Near town, *Bhargava* 2825 (CAL, PBL); Katchal Is., Maride to Kapanga, *P. Chakrabarthi* 2118 (PBL); Kamorta Is., *Kurz s. n.* Herb. Acc. No. 414757 (CAL); Great Nicobar Is., Laful,

T. Chakrabarty 10145 (PBL). Karnataka: Kodagu dist., Mercara-Sampaje, *Ramesh & Manohar* 8412 (CAL). PHILIPPINES. Luzon, Mt. Marevels, *Whitford* 26 (CAL); Limay, *C. B. Robinson* 6151 (CAL); Rizal Prov., *Ahern's coll.* 3144 (CAL).

Distribution: Sri Lanka, S. India, Andaman & Nicobar Is., Myanmar, Indo-China, Thailand, Malaysia, Philippines, Java, Celebes, Lesser Sunda Is., New Guinea, Australia (N. Queensland).

2. var. *cunetaus* (Ridley) Balakr. & T. Chakrad., **stat. et comb. nov.** *M. cuneatus* Ridley, l. c.

Shrub, 2-3 m high. Recognizable from var. *resinosus* and var. *muricatus* by the leaves being clearly trinerved at base and the capsules being pubescent.

Specimens examined: MYANMAR. Hue Tetma, 500 m, *Gaddock* 55 (CAL).

Distribution: Vietnam, Thailand, Malaysia. This is a new record for Myanmar.

Note: The spines on immature fruits examined are short and conical with 3-4 ochraceous hairs at or near the tips.

3. var. *muricatus* (Wight) Balakr. & T. Chakrab. **stat. et comb. nov.** *Claoxylon muricatum* Wight, l. c. *M. muricatus* (Wight) Muell.-Arg., l. c. *M. muricatus* (Wight) Muell.-Arg. var. *muricatus* (excl. var. *walkerae*) Pax & Hoffm., l. c. *Rottlera muricata* (Wight) Thw. *M. subramanyamii* Ellis, l. c. *M. resinosus* var. *subramanyamii* (Ellis) T. Chakrab., l. c.

Shrubs or trees, up to 8 m high, occurring up to 2500 m above m. s. l. Differs from var. *resinosus* in the short conical spines on the capsules.

Specimens examined (cited selectively): INDIA. Andhra Pradesh. Chittoor dist. Horsely-Konda, *Fischer* 4326 (CAL); Near Papanasam Hills, *Subramanyam* 6952 & 6254 (CAL. MH). Kerala. Travancore,

Bourdillon s. n. Herb. Acc. No. 414684 (CAL); Idukki dist., Devicolam to Bodi Road, *Ramamurthy* 66351 (CAL. MH); Wynaad, *Beddome* s. n. (MH). Tamil Nadu Anna dist., Vardhamanadhi, MHEP area, *K. Ramamurthy* 86425 (MH); Coimbatore dist., Kurudimalai, Northern slopes, *Subramanyam* 836 (CAL. MH); Madurai dist. Nooparaganga, *Subramanyam* 3407 & 3408 (CAL. MH); Nilgiri dist., Moyar bank, *B. D. Sharma* 35730 (MH); Tiruchirapalli dist., Pallavaram, Kollimali, *C. A. Barber* 12925 (MH); Tirunelveli dist., Kuthiraivetti, *A. N. Henry* 16394 (MH).

Distribution: Endemic to Peninsular India.

Note: The holotype of *M. Subramanyamii* at CAL bears the field no. *Ellis* 34863 but in the protologue the collection number given is *Ellis* 34963 (CAL).

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